EVALUATING THE BURMESE POPULATION AND THEIR USE OF THE WOMEN, INFANTS, AND CHILDREN PROGRAM

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EVALUATING THE BURMESE POPULATION AND THEIR USE OF THE WOMEN, INFANTS, AND CHILDREN PROGRAM

This pilot study examines the use of the Women, Infants, and Children (WIC) program by the Burmese population in Indianapolis, Indiana.

A significant number of Burmese people migrated to the Indianapolis area starting in 2004. Many of them are families with young children and are enrolled in the WIC program. Language barriers and cultural differences make it more difficult for the WIC program to meet the needs of these families. To what extent is the WIC program meeting their needs? To answer this question, Burmese WIC participants enrolled in the Marion County WIC program were invited to participate in this study. Study participants received a survey at the time of their appointment at the WIC office. The survey included questions that focus on how the Burmese people feel about the foods provided and the nutrition education they receive on the program. Of the 30 study participants, 28 of them or 93.3% reported WIC as being very helpful. Some foods were reported as not being utilized as frequently by the Burmese population on the WIC program, including tortillas, brown rice, and whole wheat pasta. In addition, twenty six of the 30 participants or 86.7% reported the nutrition education they receive on WIC as being very helpful. Participants reported learning many new things through WIC nutrition education including how best to feed their infants and children, as well as breastfeeding being the best for their babies.

Jacquelynn M. O'Palka, PhD, RD, Committee Chair

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SPECIFIC AIMS

The specific aim of this study was to determine to what extent is the Women, Infants, and Children (WIC) program meeting the needs of the Burmese population in Indianapolis, Indiana as determined by a survey including questions that focus on how the Burmese people feel about the foods provided and the nutrition education they receive on the program.

Definition of Terms:

1) Special Supplemental Nutrition Program for Women, Infants, and Children (WIC): USDA government program that provides federal grants to states for supplemental foods, health care referrals, and nutrition education for low-income pregnant, breastfeeding, and non-breastfeeding postpartum women, and to infants and children up to age five who are found to be at nutritional risk.

BACKGROUND AND SIGNIFICANCE

History of the Burmese Population and their Relocation to Indianapolis, Indiana

The history of the country of Burma dates back to as early as the 8th and 9th centuries when the Burmans established a dynasty after they migrated south from the eastern Himalayas and occupied the central plains of the country. That lasted 500 years and then for the next 1,000 years, different groups established kingdoms that had control. In 1824, the British conquered Burma. During British rule, ethnic states were established and the British encouraged separation between them. These ethnic groups became semi-autonomous. In 1948, Burma became an independent country. Over the next 14 years, there was much conflict within the country and the army overthrew the democratic government. Many insurgent and political groups formed within the ethnic groups and fought against the army to regain democratic participation (Shrestha-Kuwahara, Jansky & Huang, 2010).

This unrest in Burma forced ethnic minorities to flee their country. Many escaped to Thailand, Bangladesh, and Malaysia. Starting in 2004, refugees were resettled in the United States. Since 2005, the top three states for Burmese immigrant resettlement are Texas, New York, and Indiana (Shrestha-Kuwahara, Jansky & Huang, 2010). The numbers of Burmese resettling in Indiana were 991 in 2012, 1,323 in 2013, and 1,270 in 2014 (Refugee Processing Center, 2016).

> There are seven main Burmese ethnic groups; the Burmans, Shan, Karen, Rakhine, Chinese, Indian, Mon, and other smaller ethnic groups. There are also over 130 unique subgroups within the eight main ethnic groups. The largest ethnic group, the Burmans, represent 68% of the population. The two second largest ethnic groups, the Shan and the Karen, make up 9% and 7% respectively. The remaining ethnic groups together represent 16% of the population (Shrestha-Kuwahara, Jansky & Huang, 2010, page 13).

Given their recent arrival in Indiana, relatively little is known about the difficulties faced by Burmese living in central Indiana. However, there are various studies on refugees from other areas in the United States. Trinidad et al (2015) report that African, Nepali, and Karen refugees face many obstacles as they settle in new locations. Among these are poverty, food insecurity and difficulty navigating the food related environment. Upon arrival in the United States, the majority of refugees have very limited resources. Over time, they may gain access to food resources through help from members in the community and through programs such as the Supplemental Nutrition Assistance Program (SNAP) and WIC. However, even after obtaining these resources, many refugees have trouble identifying food in stores, a limited range of recipes, and concerns over how to prepare a meal with 'American foods.' Renaud reported primary needs identified by Burmese and Iraqi refugees identified upon arrival in the United States. These include English language, transportation, skills, and cultural knowledge. Many refugees struggle to obtain a job because of their lack of skills. They must find jobs that meet their present skill set or they must train for a job unfamiliar to them. There are also cultural and geographic differences they must learn. A few examples include the cold weather they may not be used to and their unfamiliarity with the system of money and banking in the United States (Renaud, 2011).

The diet of the Burmese people is centered on rice. They:

> Mostly eat white rice for almost every meal with various 'curries' (side dishes), such as fish, meat, and soup, or they use it in fried rice, noodle, and other rice flour-based dishes. The Food and Agriculture Organization estimates carbohydrates make up 67% of the diet and rice makes up 55% of the diet. Total protein consumed is an estimated 11.4% (of which animal protein contributes 3.2%), and fat nearly 22%. The most common

> protein sources are fish, pulses, and meat/eggs (pigs, chicken, and ducks especially) (Wilson & Mwee, 2013, pages 8-9).

They may include vegetables in their dishes and incorporate fruit if it is available, however consumption of these micronutrient-rich vegetables and fruits appears moderately low. Wilson et al (2013) report that certain nutrient deficiencies are prevalent in the Burmese population, including iron, vitamin A, thiamine and iodine. Their findings were based on an assessment that draws from three broad types of information including national surveys on poverty, malnutrition, and health outcomes; food security assessments conducted by UN agencies, donors, and non-governmental organizations in Myanmar; and semi-structured qualitative interviews with key stakeholders across seven of the fourteen states/regions in Myanmar. Additional nutrient deficiencies that have been reported in the general refugee population include vitamin D, zinc, vitamin B12, and vitamin C (Seery, Boswell, & Lara, 2015).

Overview of the Women, Infants, and Children Program

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) provides federal grants to states for supplemental foods, health care referrals, and nutrition education for low-income pregnant, breastfeeding, and non-breastfeeding postpartum women, and to infants and children up to age five who are found to be at nutritional risk (U.S. Department of Agriculture [USDA], 2019). The WIC program was established in 1974. The basis of the program is that early intervention during critical times of growth and development can help prevent future problems including both medical and developmental. The WIC program is designed to be an adjunct to good

health care. The program can be the first opportunity for early nutrition and health care intervention for many infants and families.

There are an estimated seven million people in the United States served by the WIC program each month. The annual budget was approximately $5.5 billion in FY 2018 (USDA, 2019). The program is not an entitlement program. To qualify, applicants must meet eligibility requirements. A person must be either a pregnant woman, a nonbreastfeeding woman up to six months postpartum, a breastfeeding woman up to one year postpartum, an infant up to his/her first birthday, or a child up to his/her fifth birthday. There are also residential and income eligibility requirements. The applicant must reside in the state where they are applying (Oliveira & Frazao, 2015). Families receiving Medicaid, SNAP, or Temporary Assistance for Needy Families (TANF) are income eligible. For families that are not participating in any of these programs, the income cutoff is set at the maximum 185 percent of the Federal poverty guidelines (Table 1) determined by the U.S. Department of Health and Human Services (Oliveira & Frazao, 2015).

Table 1: 2019 WIC Income Guidelines (ISDH, 2019)

Household* Size	Annual income up to $ (total before deductions)	Monthly income up to $ (total before deductions)	Weekly income up to $ (total before deductions)
1	$23,107	$1,926	$445
2	$31,284	$2,607	$602
3	$39,461	$3,289	$759
4	$47,638	$3,970	$917
5	$55,815	$4,652	$1,074
6	$63,992	$5,333	$1,231

Table 1: 2019 WIC Income Guidelines continued (ISDH, 2019)

Household* Size	Annual income up to $ (total before deductions)	Monthly income up to $ (total before deductions)	Weekly income up to $ (total before deductions)
7	$72,169	$6,015	$1,388
8	$80,346	$6,696	$1,546
Each additional family member, add	+ $8,177	+ $682	+ $158

If you are pregnant, count yourself as two (2).

For households with more than 8 members, add $8,177 annual income for each additional member.

*Household means a group of people (related or not) who are living as one economic unit.

After meeting eligibility requirements, participants are screened for nutritional risk, as determined by a health professional, such as a physician, dietitian, or nurse. Height (or length) and weight are measured as well as a blood test for anemia is performed. The only participants that do not undergo blood testing are infants under nine months of age. Medical history and dietary patterns are obtained.

Federal regulations recognize five major types of nutritional risk for WIC eligibility. They include:

1) Detrimental or abnormal nutritional conditions detectable by biochemical or anthropometric measurements (such as anemia, underweight, or overweight)

2) Other documented nutritionally related medical conditions (such as nutrient deficiency diseases, metabolic disorders, or lead poisoning)

3) Dietary deficiencies that impair or endanger health (such as inadequate dietary patterns)

4) Conditions that directly affect the nutritional health of a person (including alcoholism or drug abuse)

5) Conditions that predispose a person to inadequate nutritional patterns or nutritionally related medical conditions (including, but not limited to, homelessness and migrancy)

After determination of nutritional risk, the participants then receive a tailored food package and nutrition education. Referrals to health and social services are given as needed (Oliveira & Frazao, 2015).

In the state of Indiana, the food package is distributed through the use of electronic benefit transfer (EBT). This is an electronic system, similar to a debit card transaction, which allows a recipient to authorize transfer of their government benefits from a federal account to a retailer account to pay for purchased products (Oliveira & Frazao, 2015). The average monthly food allotment per person for FY 2018 was $40.96.

The food package varies depending on the category of the participant. Infants receive formula (if not breastfeeding or doing some breastfeeding) and can receive baby foods starting at 6 months of age. Children are provided a food package with a few options that parents may select. Women on the program are provided a food package based on their breastfeeding status. Mothers that are fully or mainly breastfeeding receive a larger food package than those mothers that are nonbreastfeeding or limited breastfeeding. Table 2 depicts the WIC food packages for women and children (USDA, 2019). Foods that are provided to participants include infant formula, infant cereal, infant baby fruits and vegetables, infant meats, milk, cheese, yogurt, eggs, fruits and vegetables, juice, cereal, peanut butter, beans, canned fish, and whole grains including bread,

tortillas, rice, and pasta. "The foods included in the packages are high in nutrients determined to be beneficial for pregnant, breastfeeding, and postpartum women; infants; and children" (Oliveira & Frazao, 2015, page 6). These nutrients include high-quality protein, iron, calcium, vitamin A, and vitamin C (Oliveira & Frazao, 2015). There are also special circumstances where certain nutrition supplements may be provided. An example of this may be Ensure, which can be provided with a doctor's order.

Table 2: WIC Food Packages

SNAPSHOT of the WIC Food Packages[1]				
Maximum Monthly Allowances of Supplemental Foods for Children and Women				
Foods	Children	----------Women----------		
	Food Package IV 1 through 4 years	Food Package V: Pregnant and Partially (Mostly) Breastfeeding (up to 1 year postpartum)	Food Package VI: Postpartum (up to 6 months postpartum)	Food Package VII: Fully Breastfeeding (up to 1 year post-partum)
Juice, single strength	128 fl oz	144 fl oz	96 fl oz	144 fl oz
Milk[2]	16 qt	22 qt	16 qt	24 qt
Breakfast cereal[3]	36 oz	36 oz	36 oz	36 oz
Cheese	N/A	N/A	N/A	1 lb
Eggs	1 dozen	1 dozen	1 dozen	2 dozen
Fruits and vegetables	$8.00 in cash value vouchers	$11.00 in cash value vouchers	$11.00 in cash value vouchers	$11.00 in cash value vouchers
Whole wheat bread[4]	2 lb	1 lb	N/A	1 lb
Fish (canned)[5]	N/A	N/A	N/A	30 oz

Table 2: WIC Food Packages continued

Maximum Monthly Allowances of Supplemental Foods for Children and Women				
Foods	Children	----------Women----------		
	Food Package IV 1 through 4 years	Food Package V: Pregnant and Partially (Mostly) Breastfeeding (up to 1 year postpartum)	Food Package VI: Postpartum (up to 6 months postpartum)	Food Package VII: Fully Breastfeeding (up to 1 year post-partum)
Legumes, dry or canned and/or Peanut butter	1 lb (64 oz canned) Or 18 oz	1 lb (64 oz canned) And 18 oz	1 lb (64 oz canned) Or 18 oz	1 lb (64 oz canned) And 18 oz

[1] Refer to the full regulation at www.fns.usda.gov/wic for the complete provisions and requirements for WIC foods.

[2] Allowable options for fluid milk substitutions are yogurt, cheese, soy beverage, and tofu.

[3] At least one half of the total number of breakfast cereals on State agency food list must be whole grain.

[4] Allowable options for whole wheat bread are whole grain bread, brown rice, bulgur, oatmeal, whole-grain barley, whole wheat macaroni products, or soft corn or whole wheat tortillas.

[5] Allowable options for canned fish are light tuna, salmon, sardines, and mackerel.

Nutrition education is an important part of the WIC program. It is designed to:

> Assist the individual who is at nutritional risk in improving health status and achieving a positive change in dietary and physical activity habits and prevent nutrition-related problems through the optimal use of supplemental foods and other nutritious foods. Nutrition education is taught in the context of the ethnic, cultural, and geographic preferences of the participants and with consideration for educational and environmental limitations experienced by the participants (Oliveira & Frazao, 2015, page 8).

Within the WIC program, nutrition education is provided through individual or group sessions every three months during the participants' one-year certification.

Within the Marion County WIC program, dietitians conduct individual and group nutrition education. Interpreters are used for those who may need them. WIC clinics have access to interpretation services by telephone, and at some clinics, interpreters are physically present. Some clinics offer specific Burmese nutrition classes facilitated by a Burmese interpreter. There is also an online option for participants to complete education modules via the Internet, if attending scheduled classes is a hardship. This online option, currently available in English and Spanish, would not be useful for many Burmese participants. Burmese WIC participants are encouraged to attend a class rather than complete the online education modules.

The WIC program food package was last updated in 2007. One of the reasons for the updates was to "provide WIC State agencies with greater flexibility in prescribing food packages to accommodate participants with cultural food preferences" (Department of Agriculture, 2014, page 12274). This increase in food variety benefited each participant on the program. The 2007 WIC food package included an increase in the amount allowed for fruits and vegetables and expanded the variety of whole grain items allowed. The amount provided for children increased from six dollars to eight dollars per month for fruits and vegetables. Before the 2007 update, WIC participants' grain choice was limited to whole wheat bread. After the update, choices expanded to one loaf of whole wheat bread, one package of whole wheat or corn tortillas, one package of brown rice or one package of whole wheat pasta. More options are beneficial, especially for people of various cultures in which whole wheat bread is not greatly used. Yogurt was

recently added to food packages. Participants can choose to include yogurt in their food package, which decreases the amount of milk they receive by one quart per month.

Food/Diet Challenges Faced by Immigrants

Balance is important; however, it is not the only aspect of a person's diet. Cultural significance of food, such as social values, meanings, and beliefs, also hold value. "Smoked salmon, lentils, steak or coddled eggs, might be more or less equivalent nutritionally, but they carry markedly different connotations socially" (Murcott, 1982, page 203). Peoples' food choice exhibits patterns and regularities. Immigrants face challenges as they navigate a new food system while trying to hold onto their cultural food habits.

Non-western populations immigrating to industrialized societies such as the United States face many barriers. Trinidad et al (2015) used a multiple qualitative methods approach with a goal to understand the food access issues of refugee families in Oregon. This study included five families including three African, one Nepali, and one Karen family. The authors obtained data from a photovoice with recorded dialogue among youth-parent pairs and a talking circle with the families. The photovoice component consisted of the youth taking photos with cameras and then facilitating dialogue with their caregiver that was recorded using digital recorders. The youth were trained on how to capture places, resources, or things in their homes and communities that hold significant cultural relevance and meaning regarding food access. Examples such as favorite foods and places where they go shopping were provided. The youth

were also trained on facilitating the paired dialogue with a caregiver. Dialogue from both the photovoice and the talking circle was recorded and transcribed.

Trinidad et al (2015) reported that the participants expressed concern regarding financial strain and lack of access to cultural foods. Several participants mentioned specific foods, such as green bananas or certain spices, which were more expensive and harder to find. The participants had to shop at several stores to obtain the items they desired. The participants expressed the burden of meeting multi-generational food needs and concerns about health due to the Western diet. Some participants mentioned that their children developed a preference for Western/American food, which made meeting their needs more stressful. The participants did not always have money to buy the fast food their children wanted, nor did the participants want their children eating these foods regularly due to their unhealthy nature. This study identified many food access issues of refugee families in Oregon; however, results cannot be generalized due to the small sample size. In addition, the need for translation services can make using findings difficult due to the possibility that the true meaning of what a participant intended may be lost in the translation process (Trinidad, Camden, & Coleman, 2015).

Kercood and Morita-Mullaney used a mixed methods approach to identify Burmese participants' perceived levels of acculturation within health care contexts. The authors used a quantitative survey tool, the East Asian Acculturation Scale (EAAM) of health perceptions and a photovoice protocol with semi-structured interviews. The EAAM is a 29-item self-reported questionnaire that contains four subscales: assimilation, separation, integration, and marginalization. Interviews were audio recorded and transcribed by the authors. The study included 10 participants ages 25 to 46. Participants

shared that they had trouble changing their eating habits. Several participants mentioned the difficulty of finding fresh foods such as durian, which is a fruit native to Southeast Asia. They were able to find frozen durian, but stated it was not the same as fresh durian. One participant, in particular, felt pressure to impose the food pyramid guidelines of the USDA to meet the healthy living standards of her doctor. The food pyramid advocated a diet dense in grains, fruits, and vegetables with lesser representation of fatty foods. This participant felt restricted because she ate halal prepared meats frequently. Lastly, participants in this study felt the language barrier was a major issue when it came to receiving adequate health care.

There are limitations to this study. First, although the original EAAM survey was validated with the use of Asian participants, not all participants were East Asian. The survey was developed on a university campus and therefore represented individuals with high levels of education. The photos used in the photovoice protocol can be difficult to interpret. Lastly, the sample size is small, which limits generalization of results.

Kiptiness and Dharod conducted semistructured interviews and household observations with 14 Bhutanese families. Volunteer translators from the local resettlement agency assisted. The authors examined the participants' dietary habits and food shopping practices after resettlement in the United States from refugee camps in Nepal. The participants reported going to a number of food stores for grocery shopping, whereas in Nepal, they were accustomed to shopping in open air markets. Since coming to the United States, the participants relied on SNAP benefits and either walked or got a ride from other Bhutanese families to go shopping. The participants prepared mainly Bhutanese meals for their families such as rice, vegetables, and lentil/pea curry. The

participants did not eat beef due to religious restrictions and they very seldom ate American foods. While this study provides individualized information about Bhutanese families' meal planning and grocery shopping practices, it is not possible to generalize the findings due to the small sample size and convenience sampling.

There is very little research on the use of the WIC program by refugees. Of the few studies, one completed in 2014 looked at a group of refugees participating in the WIC program in Utah. The thirty refugees represented various ethnicities. Participants included eight women from Burma, seven from Nepal, six from Bhutan, four from Sudan, two from Somalia, two from Iraq, and one from Democratic Republic of Congo. The participants completed an oral survey to evaluate their use of the WIC program and to determine if food items provided by the WIC program made sense for their families. The participants of this survey stated that preferred foods were not allowed by the WIC program and shopping the stores was challenging. The participants felt that WIC nutritionists place emphasis on the importance of protein, but the participants did not understand why meat was not allowed on WIC. Participants also felt that white potatoes and white rice should be allowed, especially since these items are staples in their diet. Shopping in the stores was difficult for them. Some participants felt there were an overwhelming number of aisles to be perused and it seemed impossible to find the right brand as well as the right weight or volume to meet WIC food requirements (Grahmann, 2014).

In summary, there is limited data available to describe the issues faced by immigrant families as they adjust to the American food supply. The few published studies indicate that common problems include limited financial resources, language

barriers and cultural differences. Relatively few of the studies available included Burmese families and provide little information addressing the "fit" between WIC program benefits and the food and cultural preferences of Burmese immigrants.

The purpose of this pilot study was to determine how the Burmese population uses the WIC program in Indianapolis, Indiana, specifically the WIC food package and the nutrition education provided. The goal of this project is to assist recent immigrants from Burma to better their nutritional status and assist them as they become part of the Indianapolis community.

METHODOLOGY

This pilot study was approved by the Indiana University-Purdue University Indianapolis (IUPUI) Institutional Review Board (IRB) and the Marion County Research Review Board. Participants in this study were the Burmese population participating in the Women, Infants, and Children (WIC) program enrolled at a selected clinic within Marion County. A total of 30 surveys were completed for this study. To be eligible to participate, subjects were required to have at least one child enrolled on the WIC program or were on the WIC program as a pregnant woman. Participants were recruited in the WIC clinic, when they were there for a scheduled visit. Consent was obtained using a written script (Appendix A) in both English and Hakha Chin.

The participants were told their information would be kept confidential and anonymous to encourage them to fully and truthfully answer the survey. The participants were also informed that their participation in this study would have no effect on their WIC program status.

Participants completed the oral survey with the help of the author and translation services via live interpreter. The author recorded the answers that were provided by each participant. Refer to Table 3 for the survey.

Pictures of the foods included in the WIC program food packages were provided, in order to make it easier for participants to remember what is offered. The Indiana WIC Program Booklet (Appendix B) was used for pictures and information on WIC approved foods as well as standard internet search pictures.

Table 3: Survey

Is an interpreter requested and utilized for this survey?	◯ Yes ◯ No
What is your primary language?	◯ Burmese ◯ Chin - Hakha ◯ Chin - Falam ◯ Chin - Zomi ◯ English
What is your level of understanding of English?	◯ I don't understand or speak any English ◯ I understand and speak minimal English ◯ I understand and speak some English ◯ I understand and speak English well
What type of appointment did you come to WIC for today?	◯ Individual appointment ◯ Group class
What type of class did you attend?	◯ Oral health ◯ Infant feeding ◯ Breastfeeding
How did you get to the WIC clinic today?	◯ Walk ◯ Bus ◯ Car - I drove ◯ Car - someone else drove
How many people live in your house?	_____
What is mom's age?	_____
How many children do you currently have?	◯ 0 ◯ 1 ◯ 2 ◯ 3 ◯ 4 ◯ 5

Table 3: Survey continued

Are you currently pregnant?	◯ Yes ◯ No
Enter due date	_____
What is the age of your youngest child?	_____
What is the age of your second youngest child?	_____
What is the age of your third youngest child?	_____
What is the age of your fourth youngest child?	_____
What is the age of your fifth youngest child?	_____
How long have you lived in the USA?	◯ Less than 1 year ◯ 1 to 3 years ◯ 3 to 5 years ◯ more than 5 years
Where does your family buy groceries? Select as many as apply.	☐ Meijer ☐ Walmart ☐ Kroger ☐ Chin Store ☐ Saraga ☐ Sams Club/Costco ☐ Other
Why does your family go to this/these store(s)? Select as many as apply.	☐ Convenience/close to home ☐ Variety ☐ Price ☐ Availability of specific foods we like ☐ Accepts WIC EBT
How helpful do you find the WIC program?	◯ Very helpful ◯ Somewhat helpful ◯ Neutral ◯ Not helpful

Table 3: Survey continued

Do you buy these specific foods offered on WIC?

	Yes	No	N/A (not on your WIC package)
Milk	☐	☐	☐
Eggs	☐	☐	☐
Cheese	☐	☐	☐
Yogurt	☐	☐	☐
Canned juice	☐	☐	☐
Bottled juice	☐	☐	☐
Fresh fruits/vegetables	☐	☐	☐
Frozen fruits/vegetables	☐	☐	☐
Cereal	☐	☐	☐
Whole wheat bread	☐	☐	☐
Tortillas	☐	☐	☐
Brown rice	☐	☐	☐
Whole wheat pasta	☐	☐	☐
Canned beans	☐	☐	☐
Dry beans	☐	☐	☐
Peanut butter	☐	☐	☐
Canned fish	☐	☐	☐
Baby foods	☐	☐	☐
Baby cereal	☐	☐	☐
Baby formula	☐	☐	☐

What WIC foods are new to your family? Select as many as apply.

- ☐ Milk
- ☐ Eggs
- ☐ Cheese
- ☐ Yogurt
- ☐ Canned juice
- ☐ Bottled juice
- ☐ Fresh fruits/vegetables
- ☐ Frozen fruits/vegetables
- ☐ Cereal
- ☐ Whole wheat bread
- ☐ Tortillas
- ☐ Brown rice
- ☐ Whole wheat pasta
- ☐ Canned beans
- ☐ Dry beans
- ☐ Peanut butter
- ☐ Canned fish
- ☐ Baby fruits/vegetables
- ☐ Baby cereal
- ☐ Baby formula
- ☐ All foods are familiar to us, nothing is new

How do you use/prepare these new foods? (enter N/A if all foods are familiar to you or no response given) _____

If there are any WIC foods that your family does not buy or use, please explain why not. (enter N/A if you buy all the foods or no response given) _____

Table 3: Survey continued

How helpful do you find the nutrition education you receive from WIC?	◯ Very helpful ◯ Somewhat helpful ◯ Neutral ◯ Not helpful
What nutrition education information that you received is new to you?	_____
Are there any suggestions/new ideas you have to help improve the WIC program?	_____
Are there any foods you would like to see WIC offer?	_____
Any comments?	_____

STATISTICAL METHODS

Demographic information and survey responses were tabulated. The means and standard deviations were calculated for the household size, age of mom, and number of children within the household. Associations between demographics and survey responses were evaluated using logistic regression. A 5% significance level was used for all comparisons.

Logistic regression was used to fit mom's age, number of children, level of understanding of English, length of time in USA, and pregnant or no with the two questions, "How helpful do you find the WIC program?" and "How helpful do you find the nutrition education you receive from WIC?" All variables that were used in logistic regression were transformed to numeric variables first. For the questions "How helpful do you find the WIC program?" and "How helpful do you find the nutrition education you receive from WIC?", all responses were either very helpful or somewhat helpful. All analyses were only based on these two responses. In logistic regression, very helpful was transformed to 1 and somewhat helpful was 0. In logistic regression, level of understanding of English, mom's age, number of children, length of time in USA, and pregnant or not were independent variables. For level of understanding of English and pregnant or not, these were considered categorical variables. "Do not understand English" is the reference level for level of understanding of English and "no pregnant" is the reference group for pregnant or not. The other three variables: mom's age, number of children, and length of time in USA were continuous variables. The number of total observations was 30. A 5% significance level was used for logistic regression.

SUBJECTS

There were 30 participants in this pilot study. As shown in Table 4, 28 were women and two were men. There were three pregnant participants. One of the pregnant participants had no other children other than the one she was currently carrying. The other two pregnant participants had one or two other children. The average household size of the participants was 4.97 ± 1.35 (mean, standard deviation) with the largest household size being nine and the smallest household size being three. For WIC and therefore for this study, household size includes the unborn child. The age of the mother within the household on the WIC program ranged from 22 years for the youngest and 43 years for the oldest. The mean age of the mother was 31.5 years ± 5.02. The number of children that the participants currently have ranged from zero to five children. For this study, pregnant participants were told not to count their unborn as a current child; therefore, the participant that reported having zero children was the one that was currently pregnant with her first child. The average number of children within the household was 2.67 ± 1.14. The ages of children ranged from three weeks for the youngest to 17 years for the oldest. Of the 30 participants, 25 were in traditional family households with two parents and children. Of the remaining five, one household was a single mom with two kids and the other four included two parents, children, plus extended family.

Table 4: Participant Demographics

Demographic	Outcome
Total participants	30
Women	28 (3 of the 28 were pregnant at the time)
Men	2

Table 4: Participant Demographics continued

Demographic	Outcome
Average household size	4.97 ± 1.35[a]
Largest household size	9
Smallest household size	3
Average age of mother	31.5 years ± 5.02
Youngest mother age	22 years
Oldest mother age	43 years
Average number of children within household	2.67 ± 1.14
Minimum number of children within household	0 (participant currently pregnant)
Maximum number of children within household	5
Youngest child age	3 weeks
Oldest child age	17 years
Traditional family (two parents + children)	25 households
Single mom + children	1 household
Extended family (two parents + children + extended family)	4 households

[a] Mean ± standard deviation

None of the 30 participants reported English as their primary language. As shown in Table 5, there were four participants that reported their primary language as Burmese and 26 participants that reported their primary language as Chin. Of the 26 participants that reported their primary language as Chin, 22 of them reported Hakha as being their primary dialect, three of them reported Falam as being their primary dialect, and one reported Zomi as being their primary dialect.

Table 5: Primary Language

Primary Language	Number of Participants
English	0
Burmese	4
Chin – Hakha	22
Chin – Falam	3
Chin – Zomi	1

For all of the surveys conducted, there was a live interpreter available. The interpreter spoke English, Burmese, and Hakha Chin. Twenty-seven of the participants requested the services of an interpreter to complete the survey. Three participants did not use interpreter services. Those three participants completed the survey in English.

The question "What is your level of understanding of English?" was asked of all participants. Table 6 reports the findings. The three participants that did not use the interpreter all reported they understand and speak English well. There were three participants that reported they understand and speak some English. There were 15 participants that reported they understand and speak minimal English. There were nine participants that reported they don't understand or speak any English.

Table 6: Level of Understanding of English and Use of Interpreter Services

Language Ability	Number of Participants
I understand and speak English well	3
I understand and speak some English	3
I understand and speak minimal English	15
I don't understand or speak any English	9
Requested interpreter services	27
Did not utilize interpreter services	3

Participants were coming to the WIC clinic for either an individual appointment or a group class. Both the individual appointment and the group class are scheduled appointments and last fifteen to twenty minutes in total. Table 7 shows that of the 30 participants in this study, 19 came in for an individual appointment and 11 came in for a group class. There are different classes that participants may have taken part in on the particular days the study was conducted. Of the 11 participants that came for a group class, eight of them came for a class centering on the topic of oral health, two of them

came for an infant feeding class, and one participant came for a breastfeeding class. The participant that came for the breastfeeding class was one of the pregnant participants as this class is geared toward pregnant WIC participants and discussing basics of breastfeeding.

Table 7: Appointment Type

Type of Appointment	Number of Participants
Individual appointment	19
Oral Health Group Class	8
Infant Feeding Group Class	2
Breastfeeding Group Class	1

Participants reported on what mode of transportation they used to get to the WIC clinic. Table 8 shows that all 30 participants in this study reported they came by car. None of the participants reported they came by bus or by walking to the clinic. It was asked whether participants drove themselves or if they had someone else drive them to the clinic. There were 10 participants that reported they drove themselves and twenty participants that reported they were driven by someone else.

Table 8: Mode of Transportation

Mode of Transportation	Number of Participants
By car – I drove	10
By car – Someone else drove	20
By bus	0
Walk to clinic	0

Participants were asked how long they have lived in the USA. The options included less than one year, one to three years, three to five years, or more than five

years. As shown in Table 9, none of the 30 participants reported they have lived in the USA for less than one year. There were nine participants that reported they have lived in the USA for one to three years. There were seven participants that reported they have lived in the USA for three to five years. The remaining 14 participants reported they have lived in the USA for more than five years.

Table 9: Length of Time in USA

Length of Time in USA	Number of Participants
Less than one year	0
One to three years	9
Three to five years	7
More than five years	14

RESULTS

Many of the participants reported they shopped at more than one grocery store when asked where their family buys groceries. Table 10 contains the list of stores provided for the participants to pick from and the number of participants that reported shopping at each specific store(s). The total number of stores reported by all the participants was 67. The average number of stores reported by a single participant was two. The most popular store reported was Walmart. "Chin Store" is a general category that includes several culturally specific stores within Indianapolis. No participants reported "Other." The only stores on this list that do not accept WIC EBT are Saraga, Sam's Club, and Costco.

Table 10: Preferred Grocery Store

Preferred Grocery Store	Number of Participants
Meijer	3
Walmart	25
Kroger	17
Chin Store	14
Saraga	6
Sam's Club or Costco	2
Other	0

Participants were asked "Why does your family go to this/these stores?" The choices to select from included convenience/close to home, variety, price, availability of specific foods we like, and accepts WIC EBT. Participants were able to choose as many options as applies. The total number of answers provided for this question was 76. Therefore, the average number of responses from each participant was 2.5. Table 11 shows the results from the 30 participants. The most common answer was that the

store(s) accept WIC EBT. The least common answer was price. Convenience/close to home and variety were also important factors for participants.

Table 11: Reason for Choosing Store

Reason for Choosing Store	Number of Participants
Convenience/close to home	19
Variety	20
Price	1
Availability of specific foods we like	6
Accepts WIC EBT	30

Twenty eight of the 30 participants reported WIC as being "Very helpful" in response to the question "How helpful do you find the WIC program?" as shown in Table 12. The other two participants reported WIC as being "Somewhat helpful." No participants reported WIC as being "Neutral" or "Not helpful."

Table 12: Helpfulness of WIC Program

Rating	Response level (%)
Very Helpful	28 (93.3%)
Somewhat helpful	2 (6.7%)
Neutral	0
Not helpful	0

Participants were asked "Do you buy these specific foods offered on WIC?" and were provided with all the WIC foods to answer yes, no or N/A. Table 13 contains the responses. Participants all have fruits and vegetables on their food packages and then choose if they would like to buy fresh or frozen fruits and vegetables. All 30 participants in this study reported they only buy fresh fruits and vegetables. None reported they buy frozen fruits and vegetables. The next most common foods that participants had the

option to buy but did not buy were tortillas, brown rice, and whole wheat pasta. Participants can also choose between peanut butter, canned beans, and dry beans. Majority of participants report they buy canned beans instead of dry beans when they choose beans instead of peanut butter. There was only one participant that was eligible to buy canned fish and this participant did buy it with their WIC EBT each month. Participants that were eligible to buy baby products including foods (fruits/vegetables), cereals, and formula, all bought them each month.

Table 13: Specific Foods Used

Product	Yes	No	N/A (not available on your specific WIC package)
Milk	30	0	0
Eggs	30	0	0
Cheese	27	3	0
Yogurt	29	1	0
Canned Juice	12	1	17
Bottled Juice	25	0	5
Fresh Fruits/Vegetables	30	0	0
Frozen Fruits/Vegetables	0	30	0
Cereal	30	0	0
Whole Wheat Bread	30	0	0
Tortillas	4	26	0
Brown Rice	7	23	0
Whole Wheat Pasta	6	24	0
Canned Beans	27	3	0
Dry Beans	7	23	0
Peanut Butter	29	1	0
Canned Fish	1	0	29
Baby Foods	3	0	27
Baby Cereal	3	0	27
Baby Formula	8	0	22

Participants were asked "What foods are new to your family?" They were able to select as many foods as apply. Table 14 shows the results from the 30 participants. Eight participants reported that all of these foods are familiar to them. For the other 22 participants that reported foods being new, there were 70 total responses. Therefore, the average number of foods reported as being new was three. No participant reported that milk, eggs, bottled juice, fruits/vegetables, whole wheat bread, canned fish, or any baby foods or formula were new to them. The food that was reported most often as being new was cheese with 17 participants reporting this. Yogurt was a close second, with 16 participants reporting this as a new food for their family. Cereal was reported by 9 participants as being a new food. Canned juice, tortillas, brown rice, whole wheat pasta, beans, and peanut butter were also reported as being new.

Table 14: New Foods

Food Type	Milk	Eggs	Cheese	Yogurt	Canned juice	Bottled juice	Fresh fruits/vegetables	Frozen fruits/vegetables
Sum	0	0	17	16	2	0	0	0
Food Type	Cereal	Wheat bread	Tortillas	Brown rice	Wheat pasta	Canned bean	Dry beans	Peanut butter
Sum	9	0	6	3	3	5	3	6
Food Type	Can fish	Baby fruit/ vegetables	Baby cereal	Baby formula	All familiar			
Sum	0	0	0	0	8			

Twenty of the 30 participants provided information on how they use WIC foods that were new to them. Table 15 includes several examples of what participants reported on how they use these foods. Common preparations include using peanut butter on bread

as a sandwich, using cheese slices on bread as sandwich (can be cold or most of the time it is hot like a grilled cheese), eating yogurt plain, stir frying beans, making a cold bean salad, and having cereal with milk. There were two participants that reported they tried a few different new foods but didn't like them, so they did not continue to buy or eat them. New foods tried and rejected included American cheese slices, brown rice, yogurt, and peanut butter.

Table 15: Ways Participants Use New Foods

- I put peanut butter on bread and eat it as a sandwich. I also put cheese slices on bread and eat it as a sandwich.
- I heat a tortilla in oil and put honey on it.
- We eat yogurt plain. We eat cereal with milk.
- I stir fry beans or make a cold bean salad (using beans, salt, cilantro, and onions).
- We eat slices of cheese by themselves or eat them on bread as a sandwich.

Majority of participants reported they didn't use certain WIC foods because they did not know how to prepare them. For the question "If there are any WIC foods that your family does not buy or use, please explain why not," there were 23 responses given, listed in Table 16. The most common answer was for tortillas, brown rice, and whole wheat pasta. Participants reported these are not familiar foods to them, so they do not know how to prepare or eat them. A few participants reported on cheese. Seven participants either didn't have foods they were not using, or they didn't provide an answer to this survey question. Below are several responses given by participants.

Table 16: Reasons for Not Using Certain Foods

- I don't know how to cook or use tortillas, brown rice, or whole wheat pasta.
- Tortillas, brown rice and whole wheat pasta are not usual foods we are used to eating and I don't want to prepare foods I am not comfortable making.

Table 16: Reasons for Not Using Certain Foods continued

- I haven't tried cheese yet because I don't know how to eat it or how to prepare it. I do use cream cheese, does WIC provide this? I don't know how to use tortillas, brown rice, or whole wheat pasta. I use white rice.
- I don't buy brown rice because we like white rice instead.
- I didn't know tortillas were an option.
- We don't buy tortillas because they are not a common food for us. I bought brown rice once and tried it but didn't like it.
- We buy brown rice and mix it with white rice.
- I prefer to get bread over tortillas, brown rice, and whole wheat pasta. I have gotten them before but only a couple of times.

Twenty six of the 30 participants reported that the nutrition education they receive at WIC is "Very helpful" as seen in Table 17. Four participants reported that the nutrition education is "Somewhat helpful." No participants reported the nutrition education as being "Neutral" or "Not helpful."

Table 17: Helpfulness of Nutrition Education

Rating	Response level (%)
Very helpful	26 (86.7%)
Somewhat helpful	4 (13.3%)
Neutral	0
Not helpful	0

There were common themes that arose from the answers the participants provided when asked what nutrition education information they received is new to them. The answers from the participants were paraphrased by the interpreter and were then categorized into different themes. Listed in Table 18 are the common themes and the number of participants that reported them. Some participants gave multiple answers, so they were counted in more than one category. There were two participants that did not give specific answers for this question. One man reported that he didn't know the answer

to this question because he is not the parent that normally comes to the WIC clinic. Another woman reported that she has learned a lot from WIC but couldn't think of anything specific at the moment.

Table 18: New Nutrition Education Information

Subject	Number of responses
Child feeding	17
Infant feeding	7
Breastfeeding	10
Iron deficiency	1
Oral health	6

Some of the specific comments made by participants in regard to nutrition education are listed in Table 19.

Table 19: Comments on Nutrition Education

- I learned how to give my kids healthy foods including what time and how often.
- I tried breastfeeding before but gave up and now this time I am breastfeeding longer because of WIC help.
- I learned what foods to give and not give an infant.
- I learned how to get a good latch when breastfeeding, I have told many people about this.
- Back in my country we ate what we wanted, now I have learned to eat healthier foods.
- We have learned a lot, such as how many cups of milk to give my children in a day.
- I learned to give the cup because it is better for teeth.
- I learned about the appropriate amount of foods to give my kids.
- I used to admire people who gave formula but now I have learned about breastfeeding from WIC. I am now fully breastfeeding.
- My son has iron deficiency, so I learned to give more greens and meats. Now his iron is good.

Of the 30 participants, only two answered the question "Are there any suggestions/new ideas you have to help improve the WIC program?" One participant stated, "I might use more of the WIC foods if I learned how to cook them." Another

participant stated “Sometimes my kid doesn’t like certain WIC foods so I wish we could get other foods. Instead of cheese and tortillas, we would like more fruits and vegetables.” The 28 participants that didn’t answer this question had similar responses such as two participants saying “No, I don’t have anything to say, I like what WIC is doing” or “No, everything is good.” There was one participant that stated, “I don’t know what to say.”

One question that was used as an add on to the last question was “Are there any foods you would like to see WIC offer?” This question was not on the original list of survey questions but was added to get more information from people on what improvements WIC could make to help them. Majority of the participants stated “No” to this question. There were two participants that stated they wish WIC offered meats, fish, or seafood. There was one participant that stated, “I wish WIC could give rice porridge.” Another participant wished for ramen noodles on WIC.

At the conclusion of the survey questions, there was a final “Any comments?” question provided to allow participants to voice any last statements. Twenty-four of the participants simply stated “No”. Listed in Table 20 are the answers provided by the remaining six participants.

Table 20: Comments

- Most of the foods I get on WIC are familiar to me, but I didn’t use them as much. Now that I have WIC, I have started to use them more often.
- I wish WIC didn’t give so much cereal, we don’t always buy it because we don’t eat it often.
- Since most of these are new foods to me, it has been difficult learning how to use them but over time I am using them more.
- I like everything and feel what we get on WIC is good.
- We like going to the Chin Store because they speak our language, so it is easier to ask for what we need.

Table 20: Comments continued

- We just moved from California. We were on WIC there so much of our experience is from there.

The author wanted to see if any variable would affect the outcome for the question "How helpful do you find the WIC program?" Logistic Regression was used to analyze this. For the outcome variables, very helpful was transformed to 1 and somewhat helpful was transformed to 0. When first inputting the five independent variables into the model, the p-values for level of understanding of English, pregnant or not, and length of time in USA were close to one. Those three were then excluded. Model building using the variables, mom's age and number of children, to determine potential effects on "Helpfulness of WIC Program" are reported in Table 21. As shown, age of mom, level of understanding of English, pregnant or not, number of children and length of time in the United States, were not significant at a 5% significance level. The co-efficient for mom's age and number of children are negative and therefore, these two variables are negatively correlated to the outcome. As mom's age and number of children decrease, the participant is more likely to answer the question with very helpful.

Table 21: Logistic Regression for Helpfulness of WIC Program

	Estimate	Std.Error	z value	P-value
Intercept	9.1401	6.2412	1.464	0.143
Age	-0.1326	0.1564	-0.847	0.397
Children	-0.694	0.6732	-1.031	0.303

The author wanted to see if any variable would affect the outcome for the question "How helpful do you find the nutrition education you receive from WIC?"

Logistic Regression was used to analyze this. For the outcome variables, very helpful was transformed to 1 and somewhat helpful was transformed to 0. All five independent variables were put into model for this question however, the p-values for level of understanding of English and pregnant or not were close to one. Those two variables were then excluded. As shown in Table 22, none of the remaining independent variables, mom's age, number of children, and length of time in US, were significant predictors of outcome at a 5% significance level. Number of children was found to be negatively correlated to the outcome. As the number of children decreases, the participant is more likely to answer the question with very helpful.

Table 22: Logistic Regression for Helpfulness of Nutrition Education

	Estimate	Std.Error	z value	P-value
Intercept	-4.6234	4.599	-1.005	0.315
Age	0.2635	0.1751	1.505	0.132
Children	-0.578	0.5842	-0.938	0.348
USA	0.084	0.709	0.119	0.905

DISCUSSION

The present study matches the findings of Trinidad et al who reported that many refugees have concerns over how to prepare a meal with 'American foods.' Several of this study's participants reported not knowing how to use certain WIC food items. The most common foods reported as not being used were tortillas, brown rice, and whole wheat pasta. Participants reported these are not familiar foods to them, so they do not know how to prepare or eat them.

This study also matches Trinidad et al who reported participants had to shop at several stores to obtain the items they desired. Several participants here reported going to multiple grocery stores in order to get everything they desired. The total number of stores reported by all the participants in this study was 67. The average number of stores reported by a single participant was two. Some participants in this study stated they like to go to a cultural grocery store to obtain specific foods familiar to them and then they will go to another grocery store to obtain majority of their WIC food items.

One area that this study differs from Trinidad et al is in regard to participants being concerned that their children were developing a preference for Western/American food. Trinidad et al reported that parents found this preference made meeting their children's needs more stressful. In addition, this present study did not find the same results as Kercood et al in regard to changing eating habits. Kercood et al indicated that several of their 10 Burmese participants shared concern about changing their eating habits, similar to Trinidad et al. Although, there was no specific question in the survey regarding children and their changing eating habits, there were a few of the participants that mentioned they liked that their children were starting to like 'American' food. None

of the participants in this present study mentioned the concern of their children's changing eating habits. One explanation for this difference could be the length of time the participants had been in the United States. Participants of this study seem to have been in the United States for a longer period of time than the participants of the studies by Kercood et al and Trinidad et al. Of the 30 participants in this study, 14 of them reported being in the United States for more than five years, seven of them reported three to five years, and nine of them reported one to three years. No participants in this study reported being in the United States for less than one year. The time of residence in the United States for the participants in the study by Kercood et al ranged from two months to six years. The length of time in the United States is not known for the participants in the study by Trinidad et al. It was only mentioned that participants in that study recently relocated to Portland, but no specific timeframes were given.

This study matches Grahmann in that several participants reported white rice as being a staple in their diet. Grahmann reported that several participants requested white rice and white potatoes be allowed on the WIC food packages. This present study had a few participants report they wished white rice was allowed as well.

The interpreter who assisted with this study spoke English, Burmese, and Hakha Chin. There were three participants that reported Falam Chin as being their primary language. One of those participants also speaks Burmese, so interpretation was completed in Burmese. Another of these three participants didn't need an interpreter as she spoke English well. The third participant reported Falam Chin as being her primary language and the author of this study did not clarify if perhaps this participant also speaks Burmese or Hakha Chin and therefore interpretation was in one of these dialects.

Translation could have been inaccurate if this participant only spoke Falam Chin and the interpreter was unable to clearly communicate in her primary language. There was also one participant that reported Zomi Chin as being her primary language. This participant didn't use an interpreter as she spoke English well. Therefore, only one participant out of the 30 total participants would potentially have questionable results due to language barrier.

The answers provided by participants were paraphrased when recorded. Using a live interpreter is helpful to create a more relaxed and open environment however over the course of the surveys, it was hard to ensure that translation was consistent and completely accurate for all participants. Therefore, it is hard to know that all answers are completely accurate as to what the participant was trying to say.

All of the surveys were complete within the WIC clinic at the time of the participant's scheduled appointment. It is possible that the participants were not as comfortable as they would have been in a different setting outside the WIC clinic. This could explain the high number of participants that answered the questions "How helpful do you find the WIC program?" and "How helpful do you find the nutrition education you receive from WIC?" with the response "very helpful." It would be interesting to see how the answers would differ if asked in a different setting.

The present study included an additional question that was not on the original list of questions. This was "Are there any foods you would like to see WIC offer?" This question was added after the question "Are there any suggestions you have to help improve the WIC program?" Several participants did not report any suggestions and therefore the author of this study included the additional question to encourage more

dialogue and gather more information from participants on how WIC can help the Burmese population further. There were four participants that answered this second question, which provided additional information for the author to use.

The Indiana WIC program booklet was used to show participants foods that were talked about during the survey. Appendix B has the pictures of the WIC Approved Foods that are found within the Indiana WIC program booklet. Several of the foods had pictures in the booklet however not all foods had pictures in the booklet. The present study also used standard internet search images for cheese and tortillas when discussing with participants.

One of the subjects that was not intended to be included in the survey was the set-up of the household. There were 25 traditional families within this study, where the family consisted of two parents and their children. There was one household that was a single parent household. There were also four households that consisted of two parents, children, and extended family such as the parent's parents or parent's siblings. This is an interesting observation, which shows how important family is in the Burmese culture.

No participant reported "other" for the question on where the family buys groceries. This may be due to inaccuracy with interpretation to always include other as an option. All participants reported that at least one of the stores they went to accepts WIC EBT. Only one participant reported that they went to a particular store due to price. Convenience and variety seem to be more important for these study participants than price.

Interestingly, all 30 participants in this study stated they buy fresh fruits and vegetables and do not buy frozen fruits and vegetables. They are still utilizing the money

they receive on the WIC program to get fruits and vegetables, regardless of the form, however it would be helpful to make sure participants understand they have the option to at least try frozen fruits and vegetables at some point. Especially in the winter months when fresh fruits and vegetables may be more expensive or there may be fewer options to buy, frozen fruits and vegetables may be more ideal. The participant would be able to get more for their money as prices may be better on frozen fruits and vegetables and participants may be able to get a larger variety or try new fruits and vegetables they may not have had before. Education comes into play where WIC staff could be giving participants examples of foods to buy and how to use and prepare them. It was not specifically asked why participants are not buying frozen fruits and vegetables, so it would be interesting if this question were asked to see what the response would be.

Cheese and yogurt were the two most commonly reported foods as being new to participants. Interestingly, the majority of participants still reported buying and using these foods on their WIC packages. Twenty-seven of the 30 participants reported buying and using cheese, while 29 of the 30 participants reported buying and using yogurt. When asked how participants use cheese, many reported they make a sandwich using cheese slices. Some reported eating the sandwich cold and some reported eating the sandwich hot, similar to a grilled cheese sandwich. When asked how participants use yogurt, many participants reported they ate the yogurt plain, by itself. This shows that for these 30 participants, they were willing to try new foods and many of them ended up liking both cheese and yogurt. It should be noted that the cheese options on the WIC food package include many other types of cheese besides slices. Participants are also able to pick from blocks of cheese, string cheese, shredded cheese, cubed cheese, and

cheese crumbles. None of the participants of this study reported that they purchased any of these other types of cheese. This could be an area of education for the WIC staff to ensure that participants are aware of all the options they have. Participants may find they like a different type of cheese and can use it in a new way, other than making a sandwich.

Cereal was another common food reported as being new to participants. Nine of the 30 participants stated this was a new food item for them, however all 30 participants reported buying and using cereal on their WIC packages. This again shows that these participants were willing to try a new food item and they all seemed to like it. Many of the participants reported they ate cold cereal with milk. None of the participants reported they were buying hot cereal. It is not known why that is, and it would be interesting to explore this more to see if perhaps participants need help understanding what hot cereal is and how to use it or if perhaps participants simply do not like hot cereal and prefer cold cereal instead.

There were three participants that were eligible to get cheese on their WIC package but ended up not buying it each month. The WIC packages in Indiana allow for a combination of milk, cheese, and yogurt. If a particular participant doesn't want one or two of cheese and yogurt, then they can opt for more milk. It would be helpful for the WIC staff to talk with these participants that are not getting cheese to explain to them that if they do not wish to buy cheese, then they have an option to get a little bit more milk. Or the other option would be to encourage them to try cheese and explain all of the various ways they can buy and prepare cheese. There was also one participant that was eligible to get yogurt on their WIC package but ended up not buying it each month.

Again, this participant could choose to get more milk instead of having yogurt on their package in order to optimize what foods they get every month.

One participant was eligible to receive canned juice on their WIC program but was not buying it each month. The WIC packages in Indiana only allow women to get canned juice and children to get bottled juice. It may be more helpful for the WIC program to allow women and children to choose the type of juice they want so if this particular woman didn't want canned juice but wanted bottled juice, they would still be able to utilize their WIC package every month. The other option would be to talk with this particular participant and see if maybe the reason she isn't using canned juice is because it is not familiar to her. Explaining what it looks like and how to use it may encourage this participant to buy it every month.

The question "What WIC foods are new to your family?" ended up being confusing to many participants. A few participants wanted to know a timeframe, as they were thinking this question was asking about foods at this current moment. The question was intended to see what foods were new to people when they first started being a participant of the WIC program. It might have had better results for this question if timeframe had been clearly stated within the question, such as "What WIC foods were new to you at the start of your WIC participation?"

Beans were an interesting topic when it came to how participants are using their foods. Many of the participants reported they stir fry them as well as many participants use them in a cold salad. One participant shared the recipe she uses for this cold bean salad, which includes beans, salt, cilantro, and onions. She stated she cuts up the cilantro and onions and then mixes all the ingredients together before putting it into the

refrigerator to cool. Several participants reported a similar recipe. This was a new recipe for the author of this study. It goes to show that there is a lot to learn from the Burmese culture. The WIC program could benefit from incorporating serving suggestions and recipes from the Burmese and other cultures.

For the question about why participants are not using certain foods, it was interesting that several participants reported they were not even aware they had the option to choose tortillas, brown rice, or whole wheat pasta. This is an important finding, as it may be vital for the WIC program to make sure all participants understand what the options are when it comes to using WIC benefits. One participant reports she buys brown rice and then mixes it with white rice to make it more appealing for her family and herself. This may be a helpful tip to share among other Burmese participants who report not liking brown rice. It may be a helpful way to transition from white rice to brown rice or to at least utilize the brown rice they can get on their WIC package.

The oral health class that brought many of the participants to the clinic discussed brushing teeth and dental care as well as healthy foods for teeth. The WIC employee who taught the class talked about how much milk and juice is appropriate for children to drink, given their specific ages. The participants of this class were provided with a WIC water bottle to encourage drinking more water. Getting rid of a baby bottle was also discussed, with the WIC employee encouraging the use of a sippy cup or regular cup instead of a baby bottle. These topics were common answers brought up when the participants were asked "What nutrition education information that you received is new to you?"

The information provided by the oral health class was frequently cited. This may be because the information was fresh on their minds but hopefully it also means that participants were listening during class and understood the information.

Twenty-six of the participants did not suggest additional food items they would like to see WIC offer. There were four participants that asked for certain foods on WIC, such as meat/fish/seafood, rice porridge, and ramen noodles. It was interesting to see that one participant stated "No, we have never been asked before, so we don't know what to say." Many of the participants also stated "No, everything we get is good" or "No, what we get is enough."

The question "Are there any suggestions you have to help the WIC program?" had to be modified. The interpreter stated that the word "suggestions" does not translate well so she started using "new ideas" in its place. She stated that this made more sense to the participants.

This survey or something similar may be useful for other cultures that are common within the WIC program. Both WIC employees and WIC participants would benefit as there would be a better understanding between the two of how certain cultures use or don't use WIC foods. The survey could be used to better teach various cultures depending on what responses they give in regard to current WIC nutrition education.

RECOMMENDATIONS

Some foods are not being utilized by the Burmese population participating in the WIC program, including tortillas, brown rice, and whole wheat pasta. Participants reported these foods are not familiar to them and they do not know how to prepare or use them. Additional education from the WIC program would be helpful to make sure the Burmese population understands all the WIC foods that are available as well as how to prepare, use, and eat them. Several of the WIC clinics within Marion County are starting to expand their nutrition education classes to include food demonstrations. The WIC staff are providing samples and recipes using WIC food items for participants to try. This is a helpful way for participants, including the Burmese population, to better utilize their WIC benefits. Continuing to improve the nutrition education offered on WIC will better ensure that the Burmese population is taking full advantage of a greater variety of foods and work to prevent nutrition-related problems through the optimal use of nutritious foods.

CONCLUSION

This pilot study examines the use of the Women, Infants, and Children (WIC) program by the Burmese population in Indianapolis, Indiana.

The majority of the study participants reported WIC as being very helpful and the nutrition education they receive on WIC as being very helpful. No participant reported the WIC program or the nutrition education within the WIC program as being neutral or not helpful. The participants were complimentary of the WIC program, showing that the WIC program is beneficial for them. Participants reported learning many new things about how best to feed their infants and children as well as breastfeeding being the best for their babies.

APPENDIX A: SCRIPT

"Hello, my name is Lisa Schultz. I am a graduate student from IUPUI and I previously worked for Marion County WIC. I am undertaking research that is necessary for my Master's degree. The purpose of this research survey is to help the WIC program better understand the Burmese culture and meet the needs of the Burmese population on the WIC program. Your participation in this survey is voluntary. If you agree to participate, we will ask you seven questions, which will take approximately fifteen minutes. The answers you provide will be kept confidential. I will not link your name to anything you say in the text of my thesis. Your participation in this research will have no effect on your WIC program status. If you have any questions, please feel free to contact me or my thesis supervisor. Do you have any questions? Do you agree to participate?"

"Hello, Kei mah ka min cu Lisa Schultz ka si. IUPUI ah sianginn a dih ka mi ka si i, Marion County ah Women,Infants and Children (WIC) program ah rian ka rak tuan bel. Master's degree caah a herh mi research le ca pawl ka tuah lio a si. Research le ca ka tuah mi i ka tinhmi cu hi research survey hi WIC ti mi program nih Burmese culture le a tam deuh nih WIC program theih ter ding. Cun mah survey hi mah duh tuah le tuah lo nak nawl nan ngei. Kan tuah ko lai nan ti cun biahalnak 7 kan in hal hna lai i, minutes 15 hrawng rau lai. Na kan pek mi a phi pawl tha te in ka ni chiah lai. Nan min ti ban tuk kan langh ter lai lo. Mah research nan phit mi thawng in WIC program ah nan dirhmun a lang lai lo. A herh mi bia hal nan duh ah cun na kan hal khawh, kei mah si lo le ka saya te. Bia hal nan duh maw? Mah research tuah ding ah nan tel duh maw? "

APPENDIX B: WIC APPROVED FOODS

WIC APPROVED FOODS

INFANT FOOD

FRUITS & VEGETABLES
4 oz. jar, 4 oz. tub 2 pack or 2 oz. tub 2 pack

Includes single ingredient or combination of fruits and/or vegetables (e.g., apple-banana, sweet potato-apple).

MEATS
2.5 oz. container
(Meat only, may include broth or gravy)

Available items:

- Turkey & Broth
- Beef & Broth
- Chicken & Broth
- Ham & Broth

Not included: Organic, pouches, mixtures with cereal, casseroles, desserts, dinners, or food combinations (e.g., meat and vegetables, rice, pasta, yogurt, or noodles) meat sticks, added sugar, starch, salt, or DHA.

TIPS FOR BUYING INFANT FOOD

OUNCES	4 OZ JAR OR 2 OZ TWO-PACK	4 OZ TWO-PACK
128	32	16
96	24	12
64	16	8
32	8	4

INFANT CEREAL

ANY GRAIN OR MULTIGRAIN
8 or 16 oz. container

Not included: Organic, canned, formula, fruit, or variety packs, DHA, quinoa.

BREAST MILK

Complete nutrition for your baby.

INFANT FORMULA

Brand, type, and size specified on benefits balance. No substitutions.

MILK

FLUID MILK
Least expensive brand.
Product type and size listed on benefits balance

- Whole or Vitamin D
- Reduced-fat (2%)
- Low-fat (½ or 1%) or fat-free (skim)

Not included: Organic, flavored, imitation, buttermilk, Milnot, Vitamite, or glass bottles.

SPECIALTY MILK
As listed on benefits balance.

- Evaporated: 12 oz.
- Lactose-free: quart or ½ gallon*
- UHT
- Powder: All Sizes
- 8th Continent Soymilk Original only, ½ gallon
- Silk Soymilk Original only, ½ gallon
- Great Value Soymilk Original only, ½ gallon

** Two one-quart cartons may be substituted for ½ gallon if ½ gallons are not available.*

EGGS

LARGE OR EXTRA LARGE WHITE EGGS
1 dozen
Least expensive brand only.

Not included: Organic.

YOGURT

1 Quart (32 oz.) tub or Multipacks:
-or 2, 4 oz. 4 pack cups = 32 oz.
-or 1, 4 oz. 8 pack cups = 32 oz.
-or 2, 2 oz. 8 pack tubes = 32 oz.
-or 1, 4 oz. 8 pack tubes = 32 oz.
-or 1, 2 oz. 16 pack tubes = 32 oz.
Any flavor: fat free, low fat, or whole fat.

Not included: Greek, organic, premium, light, mix-ins, individually sold cups, or more than 40 grams of sugar per cup.

CHEESE

U.S. MADE, PREPACKAGED
8 oz. or 16 oz. only

Any type of the following flavors or combinations of flavors:

- American - pasteurized processed
- Cheddar
- Colby
- Colby-Jack
- Monterey Jack
- Mozzarella
- Muenster
- Provolone
- String
- Swiss

Not included: Organic, cheese from deli area, cheese food, cheese product, substitute or spread, imitation or individually wrapped cheese slices, spiced, flavored, or imported.

FRUITS AND VEGETABLES

ORGANIC OR NON-ORGANIC

Dollar amount specified on shopping list.

FROZEN

- Fruit without added sweeteners
- Non-potato vegetables

Not included: Any type of frozen potato. Products with added sweetener, oils, fats, herbs or spices; creams, sauces or breading.

FRESH

- Whole or cut
- Plain bagged salad

Not included: Pickled vegetables, olives, herbs or spices, nuts, salad bar items, edible blossoms, ornamental or decorative pumpkins, or party trays with dip, dressing, or croutons.

REMEMBER

The Cash Value Benefits you use to buy fruits and vegetables are loaded to your eWIC card each benefit period. If the fruits and vegetables you buy cost more than your benefits, you will have to either pay the difference with your own money, or choose to purchase less. No cash back or gift cards are allowed.

WHEN PURCHASING FRUITS & VEGETABLES

PRICE PER POUND	POUNDS							
	1½	2	2½	3	3½	4	4½	5
$0.69	$1.04	$1.38	$1.73	$2.07	$2.42	$2.76	$3.11	$3.45
$0.99	$1.49	$1.98	$2.48	$2.97	$3.47	$3.96	$4.46	$4.95
$1.49	$2.24	$2.98	$3.73	$4.47	$5.22	$5.96	$6.71	$7.45
$1.69	$2.54	$3.38	$4.23	$5.07	$5.92	$6.76	$7.61	
$1.99	$2.99	$3.98	$4.98	$5.97	$6.97	$7.96		
$2.49	$3.74	$4.98	$6.23	$7.47				

Tips to help you receive the maximum value for your Fruit and Vegetable Cash Value Benefit

- ✓ Consider purchasing fixed price items.
- ✓ Buy items that have not been pre-cut (sliced melon costs more than a whole one you slice and peel at home).
- ✓ Use coupons to lower the price of items and shop sales.
- ✓ Purchase "in season" for the lowest produce prices.

CEREAL

12 oz., 18 oz., 24 oz., or 36 oz. only (11.8 oz. and 23.7 oz. Instant Oatmeal allowed as an exception)

**Pregnant women and women considering becoming pregnant: Look for the cereals with 100% DV (daily value) of folic acid.*

B&G FOODS

Whole Grain | 2½ Minute | Instant | Instant | Original

GENERAL MILLS

Corn | Rice | Blueberry | Multigrain | Regular only

KELLOGG'S

Corn | Honey | Berry Berry | Original | Original

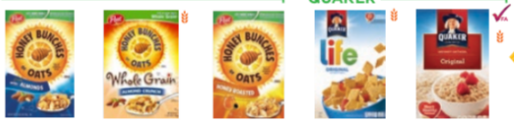
Original Bite Size | Original no fruit | Original | Original

MALT-O-MEAL

Original | Chocolate | Strawberry Cream | Blueberry | Frosted | Crispy Rice

POST

Original | Vanilla Bunches | Pecan & Maple Brown Sugar | Cinnamon Bunches | Whole Grain Honey Crunch



Almonds | Whole Grain Almond Crunch | Honey Roasted | Original | Original

QUAKER

STORE BRANDS

Corn Flakes | Crispy Rice | Oatmeal | Frosted Shredded Wheat | Toasted Oats

Rice Squares | Corn Squares

Cereal Store Brands: *Best Choice, Essential Everyday, Food Club, Great Value, Hy-Top, IGA, Kiggins, Kroger, Meijer, Our Family, Schnucks, Shurfine, Signature Kitchen*

g = Gluten free

= A minimum of 51% whole grain cereal

= 100% Daily Value of Folic Acid

WHOLE GRAINS

BREAD

16 oz. only. Whole wheat or whole grain loaf.

Aunt Millie's
- 100% Whole Wheat
- Healthy Goodness Whole Grain White

Best Choice
100% Whole Wheat

Bimbo
100% Whole Wheat

Bunny
100% Whole Wheat

Butternut
100% Whole Wheat

Essential Everyday
100% Whole Wheat

Family Choice
100% Whole Wheat

Holsum
100% Whole Wheat

IGA
100% Whole Wheat

Kroger
100% Whole Wheat

Lewis Bake Shop
100% Whole Wheat

Meijer
100% Whole Wheat

Nature's Own
- 100% Whole Grain Sugar Free
- 100% Whole Wheat w/ Honey

Our Family
100% Whole Wheat

Pepperidge Farms
- Stone Ground 100% Whole Wheat
- 100% Whole Wheat Cinnamon w/ Raisins Swirl
- Light Style 100% Whole Wheat
- Very Thin 100% Whole Wheat

Roman Meal
Sungrain 100% Whole Wheat

Sara Lee
Classic 100% Whole Wheat

Schnuck's
100% Whole Wheat

Schwebel
100% Whole Wheat

Shoppers Value
100% Whole Wheat

Signature Kitchens
100% Whole Wheat

Sunbeam
100% Whole Wheat

Village Hearth
100% Whole Wheat

Wonder
100% Whole Wheat

Not included: Buns, rolls, bagels, or bakery items.

BROWN RICE

14 - 16 oz.

Any brand, plain, boxes or bags, instant, quick, or regular.

Not included: Organic

WHOLE WHEAT PASTA

16 oz. only

Any brand, any shape whole wheat pasta.

Not included: Organic

TORTILLAS

16 oz. only

Best Choice
- Whole Wheat or Corn

Chi-Chi's
- Whole Wheat or Corn

Don Pancho
- Whole Wheat

Essential Everyday
- Corn Tortillas 5½"
- Whole Wheat 8" Whole Grain

Food Club
- Whole Wheat

Great Value
- Whole Wheat

Hy-Top
- Yellow Corn Tortillas

IGA
- Whole Wheat

Kroger
- Whole Wheat
- Gluten Free Yellow Corn

La Banderita
- Whole Wheat or Corn

Meijer
- Whole Wheat 8"

Mi Casa
- Whole Wheat

Mission
- Whole Wheat or Corn

Ortega
- Whole Wheat

Our Family
- Yellow Corn
- White Corn

Schnucks
- Whole Wheat

Signature Kitchens
- Whole Wheat

Tio Santi
- Whole Wheat

BEANS, PEAS & LENTILS

CANNED

15 - 64 oz.

- Any type

DRY

1 lb. bag (16 oz.)

- Any type

Not included: Organic, boxed, baked beans, canned green beans, canned peas, wax beans, soups, added sugars, fats, oils, added seasoning, or meats.

PEANUT BUTTER

CREAMY, CRUNCHY OR EXTRA CRUNCHY

16 - 18 oz. jars

Not included: Organic, natural, premium, spread, or mixed with other items, Reese's.

FISH

FOR FULLY BREASTFEEDING MOMS.

PACKED IN WATER, OIL, OR VEGETABLE BROTH

Cans only

- Chunk Light Tuna: any size
- Pink Salmon: any size

Not included: Organic, Albacore or Yellow Fin, white, solid, fresh, frozen, pouches, flavored, premium brandSeas, Red salmon, and sardines.

JUICE

Size is specified on benefits balance.

100% Juice (Fruit or Vegetable) and at least 72 mg or 120% Vitamin C.

Any flavor, blend or brand

SHELF STABLE OR REFRIGERATED
64 oz. container. *For children only*

SHELF STABLE
46 oz. - 48 oz. container. *For women only*

FROZEN CONCENTRATE
11.5 oz. – 12 oz. *For women only*

NON-FROZEN CONCENTRATE
11.5 oz. – 12 oz. *For women only*

Not included: Organic, premium, or cocktails.

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CURRICULUM VITAE

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Education

Master of Science in Nutrition and Dietetics — October 2020
Indiana University degree earned at IUPUI

Bachelor of Science in Dietetics — May 2010
University of Dayton

Professional Experience

Dietitian for the Marion County Public Health Department WIC Program